

Best Management Practices



Fluorescent Bulb Recycling

Why recycle? When you recycle you can: cut disposal costs; possibly create new revenue from the sale of recovered materials; and lessen your environmental impact by adopting sustainable practices. And recycling is not only good for the environment, it's also good for South Carolina's economy – providing more than 15,000 jobs and \$1.5 billion in annual personal income.

You see them everywhere... in local businesses, large retailers, hospitals, schools, grocery stores, offices and government buildings. Fluorescent lighting is a common fixture in many buildings thanks in part to its energy efficiency and the cost savings it provides.

Most of us are familiar with fluorescent bulbs including the common 4-foot and 8-foot "tubes." Most of us know that the bulbs are energy efficient – using about one-fourth the energy and lasting about 10 times longer than incandescent bulbs (light bulbs). That efficiency saves energy and money.

Many of us, however, are unaware that fluorescent bulbs as well as other types of energy-efficient lighting contain mercury – which is toxic. When broken, compacted, crushed or disposed of improperly, fluorescent bulbs may release mercury into the air, water and soil posing a significant risk to human health and the environment.

Some fluorescent bulb manufacturers have introduced "green" tip bulbs. While they typically contain less mercury than standard fluorescent tubes, generators are encouraged to recycle "green" tip bulbs as well as all other mercury-containing bulbs. For information on other management options, call the S.C. Department of Health and Environmental Control's (DHEC) Division of Compliance and Enforcement (C&E) at (803) 896-4136.

It is important to note that all generators of spent fluorescent bulbs are responsible by law for their proper disposal. Building owners and property managers need to ensure they are doing their part to limit mercury exposure and properly handle fluorescent bulbs at the end-of-life.

Fluorescent bulbs and other types of energy-efficient lighting as well as nickel-cadmium batteries, pesticides and thermostats are regulated under the Universal Waste Rule (UWR) in South Carolina. The UWR allows businesses, government agencies and other generators an opportunity to recycle bulbs and other types of universal waste at the end of life rather than manifesting and disposing of them as a hazardous waste. This can result in significant savings for the business or property owner. Recycling also helps protect our environment from potentially toxic materials.

The Association of Lighting and Mercury Recyclers (ALMR) estimates that at least 400 million mercury bulbs are being disposed of annually as part of the municipal solid waste stream and only 20 percent of all mercury bulbs are being recycled. In South Carolina, the recycling rate is estimated to be closer to 5 percent. The U.S. Environmental Protection Agency (U.S. EPA) has established a goal to increase the recycling rate of fluorescent bulbs to 80 percent by 2009.

The good news is that recycling fluorescent bulbs is easy to do. There are many companies that provide recovery and processing services including several in the state.

Benefits of Fluorescent Bulb Recycling

All fluorescent bulbs contain mercury. In fact, the standard fluorescent bulb has about 20 milligrams of mercury. It's clear that these lamps must be managed properly to protect human health and the environment.

Spent bulbs have no fundamental value. The value of mercury recovered during the recycling process is dependent on markets. Yet the cost of recycling mercury bulbs is relatively small compared to the cost savings from using energy-efficient lamps.

In addition, the recycling of these bulbs may limit a company's or business owner's liability and reduce the need for enforcement action. Clearly, the best management option is to recycle the bulbs.

As a building owner or property manager, you can influence the decision to properly manage fluorescent lighting at the end of life.

It is important to note that the UWR **encourages** all generators of fluorescent lamps to follow the guidelines established for large-quantity generators.

By recycling bulbs under the guidelines, generators can avoid hazardous waste manifest requirements and expensive disposal. There also is no need for analytical testing or reporting, but bulbs must remain intact. **Generators should not crush or treat bulbs to be in compliance with universal waste handling requirements.**

Several companies provide collection and recycling services for a fee. Fees may vary based on transportation costs and volumes for pick up. Once the bulbs are properly recycled, the generator will receive a certificate of recycling. Check out the company that is offering to recycle your bulbs.

When purchasing lighting for your building, look for bulbs that not only provide the greatest energy efficiency and longest life, but also contain the lowest possible mercury content. If the vendor you purchase bulbs from doesn't provide recycling information, there are a number of other resources available to help you properly manage your bulbs – see the Web addresses provided below. In addition, see the Technical Assistance Fact Sheet "Proper Management of Universal Waste Lamps" at www.scdhec.gov/recycle/html/pubs.html.

For more information about the UWR, call DHEC's Division of C&E at (803) 896-4136. For more information about the recycling of fluorescent bulbs, call DHEC's Office of Solid Waste Reduction and Recycling at 1-800-768-7348.

Web Sites to Visit for More Information

- www.scdhec.gov/eqc/admin/html/wmrindex.html
- www.nema.org/lamprecycle
- www.almr.org
- www.epa.gov/epaoswer/hazwaste/id/univwast/quest.htm#exempted

SOURCES: Association of Lighting and Mercury Recyclers; U.S. Environmental Protection Agency; National Electrical Manufacturers Association (NEMA); and INFORM, Inc.

R²: Recycle and Report

It's smart business to recycle. It's also smart business to report your recycling activities. South Carolina has set a goal to recycle 35 percent of its municipal solid waste. Your numbers count. Your numbers are needed to reach that goal.

Reporting is easy. **Keep track of what and how much you recycled.** You can keep your own records or your recycler may do it for you and report the information back to you. **Once you have the numbers, call your county recycling coordinator.**

For contact information on your county recycling coordinator, visit www.scdhec.gov/recycle and click on county programs or call DHEC's Office of Solid Waste Reduction and Recycling at 1-800-768-7348.

Reporting is done by fiscal year so you need to keep track of your recycling activities from July 1 to June 30. You should report your information to your county recycling coordinator after June 30 (the earlier the better). **Do your part. Recycle and report.**

Recycling. It doesn't cost. It pays.

For more information regarding business recycling and waste reduction, call 1-800-768-7348 or visit www.scdhec.gov/smartbusiness.



The South Carolina Smart Business Recycling Program is a partnership of the S.C. Department of Health and Environmental Control's Center for Waste Minimization, Small Business Environmental Assistance Program and Office of Solid Waste Reduction and Recycling as well as the S.C. Department of Commerce's Recycling Market Development Program. The program provides a variety of services to help businesses reduce waste, recycle and develop sustainable practices.

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